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Effective on 12/08/2004.  
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

**FEE TRANSMITTAL**  
**For FY 2005**

☐ Applicant claims small entity status. See 37 CFR 1.27

Complete if Known	
Application Number	10/606,358-Conf. #4535
Filing Date	June 26, 2003
First Named Inventor	Naohiko KIKUCHI
Examiner Name	S. D. Maki
Art Unit	1733
Attorney Docket No.	1403-0250P

<b>TOTAL AMOUNT OF PAYMENT</b>	<b>(\$)</b> 500.00
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☐ Deposit Account Deposit Account Number: 02-2448 Deposit Account Name: Birch, Stewart, Kolasch & Birch, LLP

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**FEE CALCULATION**

**1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

**2. EXCESS CLAIM FEES**

Fee Description	Fee (\$)	Small Entity Fee (\$)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

**Total Claims**    **Extra Claims**    **Fee (\$)**    **Fee Paid (\$)**    **Multiple Dependent Claims**

\_\_\_\_\_ - = \_\_\_\_\_ x \_\_\_\_\_ = \_\_\_\_\_    **Fee (\$)**    **Fee Paid (\$)**

HP = highest number of total claims paid for, if greater than 20.

**Indep. Claims**    **Extra Claims**    **Fee (\$)**    **Fee Paid (\$)**

\_\_\_\_\_ - = \_\_\_\_\_ x \_\_\_\_\_ = \_\_\_\_\_

HP = highest number of independent claims paid for, if greater than 3.

**3. APPLICATION SIZE FEE**

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
_____ - 100 = _____	_____ / 50	_____ (round up to a whole number) x _____	_____ = _____	

**4. OTHER FEE(S)**

	Fees Paid (\$)
Non-English Specification, \$130 fee (no small entity discount)	
Other (e.g., late filing surcharge): <u>1402 Filing a brief in support of an appeal</u>	<u>500.00</u>

**SUBMITTED BY**

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Name (Print/Type)	Andrew D. Meikle	Date	October 16, 2006		

# TRANSMITTAL OF APPEAL BRIEF

Docket No.  
1403-0250P

In re Application of: Naohiko KIKUCHI et al.

Application No. 10/606,358-Conf. #4535	Filing Date June 26, 2003	Examiner S. D. Maki	Group Art Unit 1733
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Invention: STUDLESS TIRE

## TO THE COMMISSIONER OF PATENTS:

Transmitted herewith is the Appeal Brief in this application, with respect to the Notice of Appeal filed: August 16, 2006.

The fee for filing this Appeal Brief is \$ 500.00.

☒ Large Entity ☐ Small Entity

☐ A petition for extension of time is also enclosed.

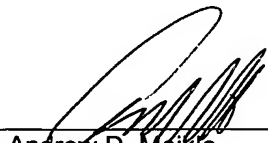
The fee for the extension of time is \_\_\_\_\_.

☒ A check in the amount of \$ 500.00 is enclosed.

☐ Charge the amount of the fee to Deposit Account No. 02-2448.  
This sheet is submitted in duplicate.

☐ Payment by credit card. Form PTO-2038 is attached.

☒ The Director is hereby authorized to charge any additional fees that may be required or credit any overpayment to Deposit Account No. 02-2448.  
This sheet is submitted in duplicate.

  
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Dated: October 16, 2006



Docket No.: 1403-0250P  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

\_\_\_\_\_  
In re Patent Application of:  
Naohiko KIKUCHI et al.

Application No.: 10/606,358

Confirmation No.: 4535

Filed: June 26, 2003

Art Unit: 1733

For: STUDLESS TIRE

Examiner: S. D. Maki

**APPEAL BRIEF ON BEHALF OF APPELLANT**  
**UNDER 37 C.F.R. §41.37**

10/17/2006 SZEWDIE1 00000120 10606358

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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In re Patent Application of:  
Naohiko KIKUCHI et al.

Application No.: 10/606,358

Confirmation No.: 4535

Filed: June 26, 2003

Art Unit: 1733

For: STUDLESS TIRE

Examiner: S. D. Maki

**APPEAL BRIEF ON BEHALF OF APPELLANT UNDER 37 C.F.R. §41.37**

MS Appeal Brief - Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

As required under § 41.37(a), this brief is filed within two months of the Notice of Appeal filed in this case on August 16, 2006, and is in furtherance of said Notice of Appeal.

This is an Appeal from the Final Rejections of May 16, 2006 of claims 1, 9 and 12 of the above-identified application.

I. REAL PARTY IN INTEREST

As evidenced by the Assignment recorded June 26, 2003, and recorded at Reel 014243, Frame 0085, the Real Party in Interest in connection with the present application is the Assignee of record, Sumitomo Rubber Industries, Ltd., 6-9, 3 chome, Wakinohama-cho, Chuo-ku, Kobe-shi, Hyogo-ken, Japan.

II. RELATED APPEALS, INTERFERENCES, AND JUDICIAL PROCEEDINGS

There are no other Appeals, Interferences, or judicial proceedings known to the Appellant or the Appellants Legal Representatives which will directly affect or be directly affected by or have a bearing on the Board's decision in this Appeal.

III. STATUS OF CLAIMS

A. Total Number of Claims in Application

There are 3 claims (1, 9 and 12) pending in this application. Claims 1, 9 and 12 stand rejected.

B. Current Status of Claims

1. Claims canceled: claims 2-8
2. Claims withdrawn from consideration but not canceled: 0
3. Claims pending: claims 1, 9 and 12
4. Claims allowed: 0
5. Claims rejected: claims 1, 9 and 12

C. Claims On Appeal

The claims on appeal are claims 1, 9 and 12

IV. STATUS OF AMENDMENTS

Applicant did not file a Proposed Amendment After the Final Rejection.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The present invention is directed to a studless tire that has superior performance on ice and snow in which adhesion friction, digging friction and scratching friction of the tire to the road and abrasion resistance are improved and maintained (page 3, lines 5-9). The studless tire of the present invention employs the unique combination of (1) non-metal sharp fibers, for example, sharp glass fibers, which have been surface treated with a treating agent comprising sulfur containing mercaptosilane and (2) incorporating the fibers into the tire such that the fibers are substantially oriented in the tread thickness direction (page 3, lines 10-16).

Claim 1

Consistent with the present invention, claim 1, which is the only independent claim of the present application recites a studless tire having a tread comprising diene rubber and sharp glass fiber which is surface treated in advance by a surface treating agent comprising sulfur containing

mercaptosilane and dispersed in said diene rubber so as to be oriented in the tread thickness direction. Claim 1 further recites that when measured at 25° C, the tread has a ratio of complex elastic modulus E1 in the tread thickness direction and complex elastic modulus E2 in the tire circumferential direction represented by the relationship:  $1.1 \leq E1/E2 \leq 4$ , and with a tread rubber hardness measured at -10°C of 45 to 75 degrees (page 3, lines 17-26).

#### Claim 9

Claim 9, which is dependent from claim 1, recites that the sharp glass fiber has an average fiber diameter of 3 to 50 µm and an average length of 0.1 to 3 mm (page 5, lines 19 and page 6, line 1).

#### Claim 12

Claim 12, which is dependent from claim 1, specifies that the sharp glass fiber has an average fiber diameter of 1 to 100 µm and an average length of 0.1 to 5 mm (page 4, lines 1-2).

### VI. GROUNDS OF OBJECTION/REJECTION TO BE REVIEWED ON APPEAL

Claims 1, 9 and 12 have been rejected by the Examiner under 35 U.S.C 103(a), being unpatentable over Ichida (EP 1,072,446) in view of Marzocchi (U.S. 3,364,059) and Marzocchi (U.S. 3,620,280). This is the lone rejection in the case, and it is believed that this rejection is clearly erroneous.

### VII. ARGUMENT

#### The Present Invention and Its Advantages

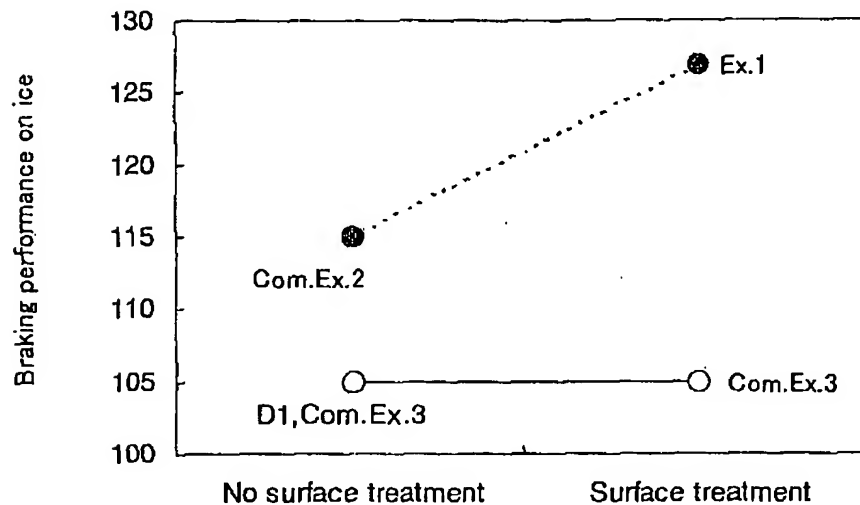


The present invention is directed to a studless tire which has superior performance on ice and snow in which the adhesion friction, digging friction and scratching friction of the tire to the road and the abrasion resistance are improved and maintained. The studless tire of the present invention, as recited in the claims, defines an invention in which a number of parameters are brought together in a unique combination to provide a studless tire which has superior performance on ice and snow and in which the adhesion friction, digging friction and scratching friction of the tire to the road and the abrasion resistance of the tire are improved and maintained. Among the unique combination of parameters are included the necessary features that the studless tire of the present invention employs (1) non-metal short fibers, for example, short glass fibers, which have been surfaced treated with a treating agent comprising sulfur- containing mercaptosilane and (2) incorporating the fibers into the tires such that the fibers are substantially oriented in the tread thickness direction.

Table 1 of the present application shows the importance of all of the many features of the present invention in achieving the Appellants' inventive contribution and Table I demonstrates that the absence of one or more of the features of the present invention leads to an inferior result. Thus, comparative Example 1, which does not contain sharp fibers, shows inferior results. Comparative Example 2, which does not contain a surface treatment of the fibers, proves to be inadequate. In comparative Example 3, the glass fiber orientation is improper and in comparative Examples 4 and 5, the elastic modulus and the tread hardness are not achieved.

The advantageous improved breaking properties on ice and/or snow and abrasion resistant properties of the present invention can be further seen by referring to Examples 1 and 2 and Table I on pages 12-14 on the present application. When comparing (1) the difference in breaking performance on ice in the case of orienting the fibers in the tread thickness direction in conducting a surface treatment of the fibers (Example 1) and not conducting a surface treatment of the fibers (Comparison Example 2) and (2) comparing the difference in breaking performance on ice in the case of orienting the fibers in the tread circumferential direction and conducting a surface treatment of the fibers (Comparison Example 3) and not conducting a surface treatment of the fibers (Comparison Example 3 of the Uchida reference), the breaking performance on ice

of this latter difference is 105 in both cases and thus is not improved regardless of whether or not a surface treatment is conducted. In contrast, the breaking performance on ice of Comparison Example (1) is 127 and 115, respectively, with the performance on ice being improved by 12 when a surface treatment is conducted (please see the graph provided immediately below).



Thus, one skilled in the art would not arrive at the conclusion of the advantageous results that can be achieved by a combination of the surface treatment of the non-metal sharp fibers and the orientation of the fibers in the tread thickness direction, without making use of the Appellants own disclosure.

Thus, it is the Appellants' position that when comparing the results of Examples 1 and 2 of the present application with comparison Examples 1 to 5 as shown on pages 12 and 13 of the present application, as well as the four references relied upon by the Examiner, as will be discussed herein below, one skilled in the art would not find it obvious to combine the three references to suggest the present invention, said invention utilizing, as one of its most important

features a combination of (1) a surface treatment of non-metal sharp fibers and (2) the orientation of the fibers in the tread thickness direction.

Distinction of the Invention Over Ichida

The Ichida reference, (EP 1,072,446) discloses a studless tire that is effective in performance on snow or ice covered roads, wherein non-metal staple fibers having an average fiber diameter of 1 to 100  $\mu\text{m}$  and an average length of 0.1 to 5 mm are dispersed in a diene rubber in such a way that the non-metal staple fibers are oriented in a thickness direction of the tire tread. The tire tread of the Ichida reference generally discloses the complex elastic modulus ratio range and the tread rubber hardness properties as defined by the present invention but fails to disclose or suggest the use of a surface treating agent for anchoring the sharp glass fibers to the rubber material itself. Thus, the Ichida patent fails to disclose one of the most important features of the present invention, which is necessary to achieve the Appellants excellent results of not only achieving advantageous adhesion properties but also achieving breaking performance on ice and/or snow. Not only does the Ichida reference failed to disclose or suggest the use of a surface treating agent for anchoring the sharp glass fibers to the rubber material, but in fact the n reference appears to achieve its desired anchoring of the fibers in the rubber material by controlling the diameter of the fibers as well as the length of the fibers. Thus, the Ichida patent is not looking to solve the problem of causing the glass fibers to adhere to the rubber material since it already achieves its desired anchoring by controlling the diameter of the fibers as well as the length of the fibers.

Distinction of the Invention over Marzocchi '059 and Marzocchi '280

The Examiner, recognizing that the Ichida patent does not suggest the use of a sulfur-containing mercaptosilane for anchoring the glass fibers to the rubber material has further relied upon the Marzocchi reference, US Pat 3,364,059 and the Marzocchi reference, U.S. Pat 3,620,280 in an attempt to fill this deficiency. However, to combine these references, the Examiner has to show some suggestion in the primary or secondary reference as to why it would be obvious to rely upon the teachings of the Marzocchi '059 and Marzocchi '028 references to fill the deficiencies of the Uchida reference. The Examiner apparently bridges this gap by stating on page 2 of his Office Action letter that the Uchida reference expresses a desire for the fibers to

remain bonded to the rubber of the tread to prevent the fibers from dropping from the tread surface during running and thereby deteriorating the effect of pushing the water film generated between the frozen road surface and the tire surface (see Paragraphs 13 and 16 of the Ichida reference). However, a close reading of the Ichida reference reveals that there is no suggestion for the fibers to remain bound to the rubber of the tread, such that there fails to be any motivation as to why one skilled in the art would look to secondary references to fill a particular deficiency. Paragraphs 13 and 16 of the Ichida patent do not appear to even remotely suggest a desire for the fibers to remain bound to the rubber of the tread. Paragraph 13 appears to be only discussing the adhesion and adhesion friction between the tire and the road and paragraph 16 is merely concerned with the length of the stable fibers, which is necessary to inhibit the fibers from dropping from the tread surface during running. Basically, there appears to be no reason as to why one skilled in the art would be motivated to go to the secondary references to fill the deficiencies of the Ichida reference.

The Marzocchi '059 patent is directed to glass fiber – elastomeric systems treated with mercapto-containing organosilane anchoring agents. However, the Marzocchi '059 reference does not even remotely suggest the use of glass fibers in a “studless tire” but rather only generally refers to the use of glass fibers in elastomeric systems fabricated into molded and laminated products, coating fabrics, and the like. More specifically, please note in this regard column 2 lines 29-33 wherein it is recited that the glass fibers are treated on its surface with a material for development of a strong and permanent bonding relationship when combined with elastomeric materials in the manufacture of glass fiber elastomeric products. In column 6 of the reference, the glass fibers are to be subsequently processed into yarns, cords, and fabrics for later combination with elastomeric material. In column 8, Example 17, the glass fiber and elastomeric material are combined in the manufacture of glass fiber reinforced plastics, laminates and coated fabrics. In all instances, there is not even the remotest suggestion that the surface treated glass fibers could be utilized in vehicle tires for achieving the Appellants purpose that is, providing a studless vehicle tire which has superior performance on ice and snow and wherein the adhesion friction, digging friction and scratching friction of the tire to the road and the abrasion resistance are improved. Since the Marzocchi '059 patent is not concerned with vehicle tires, it cannot

possibly contemplate that when glass fibers are utilized in vehicle tires they also must be incorporated into the tires such that the fibers are substantially oriented in the tread thickness direction. Furthermore, since the Marzocchi '059 reference is not concerned with vehicle tires, there obviously is no contemplation of the advantageous tire performance achieved by the present invention, that is improved abrasion resistance, breaking properties and the superior performance of the tires on ice and snow due to adhesion friction, digging friction and scratching friction of the tire to the road. Accordingly, since the Ichida reference is not looking to solve the problem of separation of the glass fibers from the rubber materials and since the Marzocchi '059 patent does not suggest that the fibers disclose therein can be used in connection with tire treads and solving specific problems associated with tire treads, it is the Appellants position that it would not be obvious to combine the teachings of respective references without making use of the Appellants own disclosure.

The Marzocchi '280 patent has been relied upon by the Examiner to show pneumatic tires having a tread comprising rubber and chopped structures 83 (see Figure 5). The chopped structures 83 are made from a yarn comprising glass filament wrapped about an organic core. Thus, the Marzocchi '280 is primarily directed to a reinforcement system which can be used in tires which employ glass and other reinforcement materials which are twisted together to form a composite cord which takes advantage of the individual properties of the glass and organic filaments to achieve the desired reinforcement properties desired in the reference patent. In the present invention the glass fibers are not wrapped around an organic core but rather are dispersed in the diene rubber so as to be oriented in the tread thickness direction. The orientation of the chopped structures 83 in Fig. 5 and further referred to in lines 5-10 of column 5 of the Marzocchi '280 patent clearly show a tire construction wherein the plurality of sharp links of composite cord structure 50 are provided in the tread region in a random orientation as distinguished from an orientation in the tread thickness direction as defined by the present invention. Furthermore, the Marzocchi '280 reference does not appear to even remotely be concerned with providing a vehicle tire with improved breaking and adhesion resistance properties as well as an enhanced performance on ice and snow. For all of the above reason, it is believed that one skilled in the

art, with the references before him, would not be lead to the teachings of the Marzocchi `280 reference to fill the deficiencies of the Uchida and the Marzocchi `059 references.

When a rejection is based on 35 USC §103, what is in issue in such a rejection is "the invention as a whole," not just a few features of the claimed invention. Under 35 U.S.C. §103, "[a] patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter *as a whole* would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." The determination under §103 is whether the claimed invention as a whole would have been obvious to a person of ordinary skill in the art at the time the invention was made. See *In re O'Farrell*, 853 F.2d 894, 902, 7 USPQ2d 1673, 1680 (Fed. Cir. 1988). In determining obviousness, the invention must be considered as a whole and the claims must be considered in their entirety. See *Medtronic, Inc. v. Cardiac Pacemakers, Inc.*, 721 F.2d 1563, 1567, 220 USPQ 97, 101 (Fed. Cir. 1983).

In rejecting claims under 35 USC §103, it is incumbent on the examiner to establish a factual basis to support the legal conclusion of obviousness. See, *In re Fine*, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one of ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reasoning must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. *Uniroyal Inc. v. F-Wiley Corp.*, 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988), *cert. denied*, 488 U.S. 825 (1988); *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), *cert. denied*, 475 U.S. 1017 (1986); *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a *prima facie* case of obviousness. Note, *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). The mere fact that the prior art may be modified in the

manner suggested by the examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. *In re Fritch*, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992).

Further, the rigorous burden placed upon the Examiner for establishing *prima facie* obviousness has been emphasized by the United States Court of Appeals for the Federal Circuit in *In re Sang Su Lee*, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002). In *Sang Su Lee*, the court states:

As applied to the determination of patentability *vel non* when the issue is obviousness, "it is fundamental that rejections under 35 U.S.C. §103 must be based on evidence comprehended by the language of that section." *In re Grasselli*, 713 F.2d 731, 739, 218 USPQ 769, 775 (Fed. Cir. 1983). The essential factual evidence on the issue of obviousness is set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966) and extensive ensuing precedent. The patent examination process centers on prior art and the analysis thereof. When patentability turns on the question of obviousness, the search for and analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied on as evidence of obviousness. *See, e.g., McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351-52, 60 USPQ2d 1001, 1008 (Fed. Cir. 2001) ("the central question is whether there is reason to combine [the] references," a question of fact drawing on the Graham factors).

The need for specificity pervades this authority. *See, e.g., In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000) ("particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed"); *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998) ("even when the level of skill in the art is high, the Board must identify specifically the principle, known to one of ordinary skill, that suggests the claimed combination. In other words, the Board must explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed



invention obvious."); *In re Fritch*, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992) (the Examiner can satisfy the burden of showing obviousness of the combination "only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references"). *In re Sang Su Lee* at 277 F.3d 1342.

#### VIII. CONCLUSION


Claims 1, 2 and 9 are directed to a studless tire, which contains specific components and specific properties for solving specific problems. The Examiner, in an attempt to reject the claims of the present application must rely upon three different references and then dissect bits and pieces from each of the references and combine the references with no basis for combination. This is particularly true when none of the references relied upon by the Examiner recognize the importance of the presence of both (1) orienting sharp glass fibers in the tire tread thickness direction and (2) treating sharp-glass fibers by a specific surface treating agent comprising sulfur containing mercaptosilane, which combination, when used together, has been found to be particularly effective in achieving the Appellants inventive contribution. Accordingly, in view of the above remarks, favorable reconsideration and reversal of the Examiner's rejection of Claims 1, 9 and 12, by the Honorable Board of Patent Appeals and Interferences are respectfully requested.

The required Appeal Brief fee in the amount of \$500.00 is attached hereto.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Dated: August 16, 2006

Respectfully submitted,

By   
\_\_\_\_\_  
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Attorney for Applicant

Attachments: IX. Claims Appendix  
X. Evidence Appendix  
XI. Related Proceedings Appendix

## IX. CLAIMS APPENDIX

### Claims Involved in the Appeal of Application Serial No. 10/606,358

1. (Previously Presented) A studless tire having a tread comprising diene rubber and short glass fiber which is surface-treated in advance by a surface treating agent comprising sulfur containing mercaptosilane and dispersed in said diene rubber so as to be oriented in the tread thickness direction,

wherein when measured at 25°C, said tread has a ratio of complex elastic modulus E1 in the tread thickness direction and complex elastic modulus E2 in the tire circumferential direction of

$$1.1 \leq E1/E2 \leq 4$$

and a tread rubber hardness measured at -10°C of 45 to 75 degrees.

Claims 2 - 8 (Cancelled)

9. (Previously presented) The studless tire of Claim 1, wherein said short glass fiber has an average fiber diameter of 3 to 50 μm and average length of 0.1 to 3 mm.

Claims 10 – 11 (Cancelled)

12. (Previously presented) The studless tire of claim 1 wherein said short glass fiber has an average fiber diameter of 1 to 100 μm and an average length of 0.1 to 5 mm.

**X. EVIDENCE APPENDIX**

*(Not Applicable)*

**XI. RELATED PROCEEDINGS APPENDIX**

*(Not Applicable)*